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AN ANALYSIS OF U. S.
OCEAN TRANSPORTATION

WILLIAM E. LLEWELLYN

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AN ANALYSIS OF U. S. OCEAN TRANSPORTATION

by

William E. Illewellyn
//
Commander, United States Navy

Submitted in partial fulfillment of
the requirements for the degree of

MASTER OF SCIENCE
IN
MANAGEMENT

United States Naval Postgraduate School
Monterey, California

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by

William E. Llewellyn

This work is accepted as fulfilling
the research paper requirements for the degree of

MASTER OF SCIENCE

IN

MANAGEMENT

from the

United States Naval Postgraduate School

ABSTRACT

The United States transportation system must fulfill two basic and inter-related requirements. The first is to stimulate our economic position through foreign trade and commerce. The second requirement is to add to our defense posture during these times of continuing international tension.

This paper examines the role of the United States merchant marine in furthering our economic and defensive interests. United States shipping policies as implemented by legislation and the resulting federal assistance programs have failed to promote an adequate United States merchant fleet.

The threat of growing Soviet maritime strength emphasizes the need for a revision of United States policies to provide a merchant marine of modern, competitive, and efficient ships.

Suggestions are made relative to improvements in policies, encouraging operating efficiencies, and changing federal assistance programs to reduce subsidy payments.

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Chapter I

Introduction

The ability of a nation to carry on foreign commerce and international trade is a vital determinant of its economic vitality. Throughout history, the most influential governments have been those which develop their trade potentials and foster policies designed to improve their national position on the world markets. The United States, as the leader in world trade, has an important interest in ocean shipping which in 1963 accounted for 98.5 percent of all goods moved to or from our shores.¹ Ocean transportation holds the key to the power of the United States to utilize its resources for economic development or to mobilize for war. The importance of transportation in the logistical application is aptly illustrated by the following:

Transportation is the most difficult and the most important part of logistics, far more important than the procurement and manufacture of things. Regardless of what you require, and regardless of how accurate your requirements estimate is, regardless of what you procure in what quantity, or in what quality, if you cannot transport it to the place where it will be profitably used, it is quite worthless. [8]

The U. S. Merchant Marine Act of 1936 provides that the United States will have a national flag merchant marine sufficient to carry all of its domestic water borne commerce, and a "substantial portion" of its

¹Rear Admiral John Harlee, USN (Retired), Lecture, U. S. Naval Postgraduate School, Monterey, California, April 15, 1964.

foreign trade. The general interpretation of a "substantial portion" means 50 percent of the United States foreign trade. In addition the U. S. Merchant Marine is to be adequate to act as the "the fourth arm of defense" during war.

In an effort to achieve these goals considerable assistance by the federal government has been given to our maritime industries. This has been due to the higher U. S. costs of operating and building ships than that of foreign nations.

Even with substantial subsidy programs the United States Merchant Marine has been unable to cope with foreign competition and during times of peace the United States fleet has always carried less than half of our foreign trade.

It is hypothesized that United States policies on subsidies to the merchant marine have been a failure from the standpoint of maintaining a sound industry for the economic and military preparedness interests of the United States.

The problem of maintaining an adequate merchant marine will not be solved easily. Compounding the problem is the fact that ocean transportation requirements in war far exceed peace time facilities because merchant ships are in effect instruments of war. The problem is therefore, one of providing a system adequate for national security which means that methods must be found by which water transport capacity can be provided during peace time at levels exceeding peace time demands. Since ocean shipping is vital to national security, federal

policy must provide for maintaining the ocean shipping industry in a satisfactory condition.

This paper will examine the actions of the government in attempting to promote the interests of the U. S. Merchant Marine through legislative efforts, and their resulting government aid programs.

The emergence of the USSR as a first rate maritime nation using its merchant marine for both political and economic advantage points out clearly the pressing need for a revision of United States policies in order to promote an American Merchant Marine which will be economically sufficient and a realistic deterrent to the USSR as a truly effective "fourth arm of defense."

Suggested Areas of Further Study.

The relatively limited time available for research in preparing this paper to fulfill the requirements of a Masters degree in Management during a ten month period precluded the detailed study of several important aspects of ocean transportation.

Topics which suggest further detailed study are listed below.

1. The application of value engineering techniques to merchant ship operations as related to both dock-side cargo handling and under-way ship operations.

2. Formulation of a national maritime policy. Unlike 1936, when the basic policy was framed, the United States today is not self-sufficient and must rely on ocean transportation for acquiring many

vital resources. Of prime importance is whether our merchant marine should be accepted as a necessary cost of defense for survival due to resource limitations. An analysis of incorporating the federal regulatory and promotional functions in the Department of Defense seems in order.

3. The payment for national defense features incorporated in ships by a cost effectiveness approach should reveal the true value of this program.

4. An analysis of the Merchant Marine Act of 1936 with particular emphasis on the effectiveness and appropriateness of its two principal forms of aid, the operating and construction differential subsidies. With less than half of U.S. foreign trade ships receiving operating subsidies, a study of subsidized and non-subsidized operations on similar routes seems appropriate.

5. The increasing adoption of mechanization and automation raises the question as to the compatibility of terminal facilities, both domestic and foreign, for the efficient use of these technological advances.

6. The regulations related to essential foreign trade routes present questions as to their appropriateness and whether the operating subsidy paid to liner ships on these routes should be extended to bulk and tramp operations.

7. The operations and regulations of the "flags-of-convenience"

fleets and their impact on our economic, political, and defense interests is an area of importance.

8. The success of our ocean transportation system presents a tremendous challenge to the ingenuity of American management to develop better production methods, to improve labor-management relations and the successful application of new technology.

Chapter II

The Role of U. S. Ocean Transportation--Historical

Since the founding of our nation, the importance of a strong merchant marine has been demonstrated forcibly many times. Those who first colonized and explored the country came here in ships, and ships were their first means of communication and trade with each other and with other countries.

Ships helped knit America together as a united country fronting on two oceans. They brought goods and people from the East Coast to the West Coast around Cape Horn, later by way of Panama, making possible the rapid development of that rich area after the discovery of gold in 1849.

The golden era of the U. S. Merchant Marine was ushered in with the famous clipper ships in the 1840's. Until sail was replaced by steam, the Yankee Clippers gave this country a pre-eminent position in the maritime world. They were used principally on the long voyages to the West Coast, India, and China, often sailing at 18 to 19 knots with favoring winds, faster than many cargo ships today.

In war, merchant ships served first as the only American Navy, later as an important supplement to the regular Navy. In its early history this country was the leader in many maritime innovations, including the steamship. The steamship, Savannah, began the age of steam powered-ships with her first crossing of the Atlantic Ocean

in 1819.

But after the Civil War the merchant fleet was neglected in favor of internal transport. The time and money of investors and explorers were being spent in building railroads and opening up the West. Leadership in the development of the potentialities of the steamship was left to Great Britain. England took the lead in building iron and steel hulled vessels propelled by steam and using the more efficient screw propellers in place of paddle wheels.

Our government attempted to help merchant shipping by granting contracts for carrying mail, or by permitting the import of ship-building materials without tariffs. Nevertheless, by the beginning of the twentieth century only one American Trans-Atlantic line was in operation and American ships were carrying less than 10 percent of the nation's trade.

As in the preceding centuries, the last 50 years have brought many occasions when the security of the nation was dependent in large measure on the availability of a strong and active merchant fleet. At the outbreak of World War I in Europe, most of the foreign flag vessels, which at that time carried nearly 90 percent of U. S. foreign trade, were suddenly withdrawn from our services. Goods piled up on our docks for lack of ships to move them, the importation of essential materials was drastically curtailed and freight rates soared in price.

Upon this nation's entry into World War I we were forced to

rely to a very great extent on foreign vessels to transport the men and materials of war abroad to the fighting fronts. A huge and costly shipbuilding program was begun under the stimulus of war with the Emergency Fleet Corporation building a total of 2,318 vessels between 1918 and 1922, but very few ships came off the ways to be of any use before the war ended. Since these ships had been hurriedly designed under emergency conditions many were unsuited to peace time use.

At the approach of World War II, the situation was quite similar, with our fleet deteriorating in size and quality, and a large part of our goods being carried in foreign flag ships. But that time, assisted by the long range building program¹ resulting from the Merchant Marine Act of 1936, the country was able to build ships fast enough to meet the tremendous demands of a world wide war. From 1942 through 1945, United States shipyards built 5,592 merchant ships of which 2,701 were Liberty ships, 414 were the faster Victory type, 651 were tankers, 417 were standard cargo types and the remaining 1,409 were military or minor types.

The government also took over the direction of ship operation. In February 1942, the War Shipping Administration was established for this purpose with the head of the Maritime Commission also head of this new agency. Ships were taken over from private operators in both

¹In 1936, the U. S. Maritime Commission laid out a long range shipbuilding program designed to provide 500 ships in the following ten years.

domestic and foreign trades, foreign ships were bought; enemy ships in our ports were seized. Four-fifths of the supplies for the entire war effort were transported by the merchant fleet under the War Shipping Administration.

After the war these same ships moved the supplies needed for rehabilitation of devastated countries. Many of them were sold at prices and under conditions set up by the Merchant Ships Sales Act of 1946. When this Act expired in 1951, 1,956 ships had been sold, 843 to American, and 1,113 to foreign flag operators at a return of nearly two billion dollars to the government. Surplus vessels were laid up in reserve fleets at eight sites throughout the country for use in future emergencies.

Such emergencies were not long in coming. When war broke out in Korea in 1950, all available privately owned ships were chartered and by March 1952, over 500 reserve ships had been placed back in service to move troops, supplies, and equipment to the theatre of operations.

When the Suez Canal was closed in 1956, reserve fleet tankers were withdrawn to provide the extra capacity for hauling petroleum the long way around Africa. Again, when war threatened in Lebanon, The American Merchant Marine provided the support to our military forces.

These were practical lessons in the value of an adequate

merchant marine to our country's security. Although less dramatic, the economic contribution is also vitally important to the nation's welfare by assuring uninterrupted movement of the agricultural, manufactured and raw materials in the foreign commerce. We are dependent upon a large variety of imported foods, raw materials, and other products to maintain our high standard of living, and to supply necessary elements of many of the exports which we send to foreign countries.

It has been repeatedly demonstrated in the past that we cannot depend on other countries to supply at all times the ships needed for the defense and trade of the United States. We must, therefore, maintain enough shipbuilding capacity, experienced shipping companies and skilled workmen of our own to provide a United States Merchant Marine adequate in both peace and war.

Chapter III

American Merchant Marine Legislation

Legislative enactments by Congress have played an important role in determining shipping policy and aiding the American Merchant Marine. Following the American Revolution, legislation was generally defensive in nature and was aimed at countering discriminatory tonnage duties to be placed on foreign operated vessels plying the coastal trades of the United States. In 1808, foreign flag vessels were excluded by legislation from the domestic trades.¹ It was also established that only ships built in domestic shipyards were eligible to sail in the coastal trades. With respect to foreign trade, our shipping industry flourished with the Yankee Clippers, the envy of all other maritime nations. Thus, little government aid was needed in this era. Other countries at this time were not so fortunate and made direct aid to their fleets in the form of mail subsidies.

With the advent of metal ships and steam propulsion in the middle of the 18th century, the United States lost its pre-eminent position and due to higher building and operating costs, the U. S. Merchant Marine diminished in size and economic health. Mail subsidies were enacted to bolster our shipping lines being used from 1847 to 1887 and

¹The U. S. is not alone in providing domestic navigation monopoly, as this practice had been used by France, Finland, Greece, Portugal, Spain, USSR and others.

from 1864 to 1877 but they proved to be of little practical benefit.

The period from 1891 to World War I was one in which the merchant marine needed direct assistance to meet the needs of commerce and defense but again only ineffective mail subsidies were used. The primary reason for not having an effective shipping policy was that public opinion was against the government supporting a relatively small segment of private enterprise and a feeling that the funds could be better used elsewhere. The Ocean Mail Act of 1891 upon which the industry depended for existence demonstrates the limited assistance policy of the government. The vague language of the Act states that with respect to mail contracts that they "should subserve and promote the postal and commercial interests of the United States."

The imminence of the United States' entry into World War I, coupled with the fact that 90 percent of our foreign trade was being carried in foreign flag vessels, promoted the enactment of the Shipping Act of 1916.² One of the main purposes of the Act was to establish a United States Shipping Board to encourage, develop and create a merchant marine to meet the requirements of the commerce of the United States. Although the Act conferred upon the Board, regulatory, promotional, and proprietary functions, the power to acquire, own and operate ships overshadowed all other functions. Section II of the

²Public Law No. 260, 64th Congress, approved September 7, 1916.

Act grants these broad powers in the following language:

Sec. II. That the board, if in its judgment is necessary to carry out the purposes of this act, may form under the laws of the District of Columbia one or more corporations for the purchase, construction, equipment, lease, charter, maintenance, and operation of merchant vessels in the commerce of the United States. The total capital stock shall not exceed \$50,000,000.³

The corporation formed to carry out the provisions of the Act was the Emergency Fleet Corporation, the main function of which was to procure the nation's wartime shipping. Emergency legislation in 1917 augmented the initial 50 million dollar working capital by an additional 750 million for shipbuilding and ship purchasing. Before World War I was completed, Congress had appropriated in excess of 5 billion dollars to the Corporation. The chief accusations against the wartime operations of the Board were extravagance and inefficiency in the construction and operating programs and in the Board's failure to include in the shipbuilding contracts termination clauses. It should be remembered, however, that the purpose of the shipbuilding program was, as has been so often the case, to create a large fleet in the shortest possible time.

Among other important features of the Shipping Act of 1916, much of United States policy with respect to shipping conferences in establishing rates is covered.

³Ibid.

The United States government accepts conferences but it puts restrictions on their American members which other important maritime nations (which accept cartels with little official animosity) do not. United States flag ship operators may join conferences but are prohibited by the Shipping Act of 1916 from engaging in such discriminatory practices as granting of deferred rebates, retaliatory practices to secure ocean trade, and making unfair contracts with any shipper based on the volume of freight offered.

The 1916 Act (Section 14a) also provides means of disciplining foreign lines participating in steamship conferences affecting United States foreign trade. If they use deferred rebate schemes or other "unfair practices" they can be refused entry to American ports. The same penalty can be invoked if a conference excludes United States flag lines from joining an organization on equal terms with other members. In this way, conferences can be kept open to new members, thus overcoming one of the objections to a cartel type organization.

The Merchant Marine Act of 1920⁴ had as its purpose to provide for the promotion and maintenance of the American Merchant Marine, to repeal certain emergency legislation enacted during World War I and to provide for the disposition, regulation and use of war built vessels. More importantly, the 1920 Act embodied the first definitive

⁴Public Law No. 261, 66th Congress, approved June 5, 1920.

statement of government policy under which aid could be given the American Merchant Marine. [7]

It stated:

That it is necessary for the national defense and for the proper growth of its foreign and domestic commerce that the United States shall have a merchant marine of the best equipped and most suitable types of vessels sufficient to carry the greater part of its commerce and serve as a naval or military auxiliary in time of war or national emergency...and it is hereby declared to be the policy of the United States to do whatever may be necessary to develop and encourage the maintenance of such a merchant marine...

A construction loan fund of 125 million dollars was established by the 1920 Act but this did little to stimulate shipbuilding, as not a single ship was constructed in the United States between 1922 and 1928 for transoceanic service. Although this particular program was not effective, it set the stage for later government participation in shipbuilding activities. The surplus of war built ships, which the government was unable to sell, offset all measures to build up the peace time fleet and the result was low shipping rates and a generally depressed industry.

The next major piece of merchant marine legislation was the Merchant Marine Act of 1920⁵ which was another attempt to solve the problems created by the excess World War I fleet.⁵ Despite its

⁵Public Law No. 463, 70th Congress, approved May 22, 1928.

provision for doubling the size of the 1920 construction loan fund to 250 million dollars (which was to remain a revolving fund) only 31 new ships were built while this Act was in force.

While the 1928 Act was a substantial improvement over earlier legislation it had several serious defects which were summarized in the 1950 Magnuson Committee Report as follows:

First, the compensation granted American lines was not based upon actual conditions encountered on the particular route served, so that some lines got more than they needed, while others competing with subsidized foreign companies were given too little aid. Second, the ships replacement provisions were somewhat too laxly enforced. Third, loans for shipbuilding were needed at varying rates, so that lucky lines got money at almost nominal interest charges, while others paid several times as much, creating an element of unfairness. This, however, was not due to favoritism but to legal interpretation of a carelessly worded section of the act. Fourth, there was inadequate supervision over the use to which subsidy money was put by the lines, officers of one or two companies paying themselves huge bonuses and dividends when their companies were almost going bankrupt. Fifth, there was complaint that in violation of law, contracts were so worded that public bidding was frustrated and only a predetermined line could comply.⁶

Often called the "Magna Carta" of the American Merchant Marine, the Merchant Marine Act of 1936, is the basis for much of the aid provided to the maritime industry today.

The preamble to the Merchant Marine Act of 1936, states:

To further the development and maintenance of an adequate and well balanced American Merchant Marine, to promote the commerce

⁶ United States Congress, Senate Merchant Marine Study and Investigation, Senate Committee on Interstate and Foreign Commerce, 81st Congress, 2nd Session, 1950.

of the United States, to aid in the national defense, to repeal certain former legislation, and for other purposes.⁷

In order to administer the provisions of the Act, a new federal regulatory agency, the U. S. Maritime Commission was created. The Commission was to carry out the provisions of the Act through the following measures:

1. Administering construction differential subsidies for vessels built in U. S. shipyards for use on essential foreign trade routes.
2. Administering operating differential subsidies for vessels used on essential foreign trade routes.
3. Financial aid in the construction of vessels by granting loans at low interest rates.
4. Allowing credit for turn-in of obsolete vessels to be applied to the purchase price of new vessels.
5. Payment for national defense features incorporated in ships.
6. Establishment of reserve funds with income tax benefits to vessel operators (deferred taxes).
7. Guarantee of ship mortgages.
8. Training of citizens to serve on American merchant ships.
9. Determining minimum manning, wage scales, and working conditions for ships receiving operating differential subsidies.

⁷Public Law No. 835, 74th Congress, approved June 29, 1936.

10. Authority to purchase or requisition vessels for national security purposes.

The long range program provided for in the 1936 Act had hardly been put into effect when World War II intervened and the United States embarked on a mammoth shipbuilding program that produced 5,500 merchant ships. This war built fleet superimposed on and altered the long run program commenced under the 1936 Act. The Merchant Ships Sales Act, passed by Congress in 1946, directed the Maritime Commission as to procedures and prices for disposal of this government owned fleet. The sale of these vessels after World War II had the short run effect of providing the American Merchant Marine with a nearly adequate number of cargo ships to carry out the initial objectives of the 1936 Act. Unfortunately, these mass produced ships would not prove to be economically competitive in the world market due to limited speed and other exigency of design characteristics. At the same time, the availability of this tonnage acted as a deterrent to a modern shipbuilding replacement program thereby setting the stage for the block obsolescence of the U. S. merchant fleet which is a major problem today.

In 1952, Congress passed the Long Range Shipping Act which attacks the problem of ship obsolescence by modifying certain features of the 1936 Act. The new law of 1952 permits the payment of construction differential subsidies to all ships operating in the

foreign trade of the United States eliminating the necessity of the company being engaged in subsidized operations. The 1950 law also amends the 1936 Act in providing for non recourse loans on passenger ships of not less than 10,000 tons or 18 knot speeds. Under the former provisions, a shipowner who owns a ship built with a government subsidy obligated himself to pay not only on the particular ship herself but also on the value of the rest of his fleet. Thus, the loss of a major passenger ship which might represent as much as 80% of the company's net worth would not financially jeopardize the remaining company's operations.

Under the 1936 Act, the Maritime Commission could purchase a vessel seventeen or more years old if that ship were to be replaced by a new vessel. The 1952 law reduces the trade in age to 12 years and also broadens the availability of construction reserve funds for reconstruction or reconditioning of vessels. One final feature of the 1952 Law is the elimination of the 25,000 dollar per year ceiling pay for employees of subsidized steamship companies.

A 1958 amendment to the 1936 Act has proved to be of special importance. Prior to this time, government insurance was available for ships' mortgages and short term loans as an incentive to private investment in ship construction; but funds available in the Federal Ship Mortgage Fund were dependent upon Congressional appropriations. Now funds may be borrowed from the treasury to pay this insurance if the Mortgage Fund is found insufficient. This and an earlier 1956

provision providing for 100% insurance of principle and interest rather than the old 90%, have been major legislative enactments for the benefit of the merchant marine. This procedure also favors the use of private rather than government loans and reduces the role of the government as a supporter and finance agent of private business.

This listing of the various legislative enactments throughout the years, indicates the heavy reliance that has been placed on direct government aid, particularly subsidies, in supporting our merchant marine. It is undoubtedly true that without such aid our maritime fleet would be in a much more precarious position today if existing at all . In order to make a valued judgment as to where our policies and legislation have been wanting and what specific courses of action are required, it is necessary to examine the functions of that government agency primarily responsible for promoting our merchant marine-- the Maritime Administration in the Department of Commerce.

Chapter IV

The Maritime Administration

The Maritime Administration was established by Reorganization Plan 21 of 1950, as one of the successor agencies to the former United States Maritime Commission. It is headed by a Maritime Administrator, who is appointed by the President, by and with the advice and consent of the Senate and acts under authorities delegated by the Secretary of Commerce.

The Maritime Administration is responsible for administering programs authorized by the Merchant Marine Act of 1936, as amended, and related shipping statutes, to aid in the development, promotion, and operation of an American Merchant Marine adequate to carry the nation's domestic waterborne commerce and a substantial portion of its foreign commerce during peace time, and capable of serving as a naval and military auxiliary in time of war or national emergencies. In carrying out its functions, the Administration is guided by the Declaration of Policy contained in Title I of the Merchant Marine Act of 1936, as amended.

Under Reorganization Plan 7, of 1961, a Maritime Subsidy Board was established with the functions of the former Federal Maritime Board with respect to subsidization of the American Merchant Marine being transferred to the Secretary of Commerce. The Secretary, in turn established within the Maritime Administration a Maritime Subsidy

Board and delegated to it the authority to award, amend, and terminate contracts for ships construction and ship operating differential subsidies. These subsidies are granted to U. S. citizens to meet disparities between United States and foreign costs in these respective areas. In this connection, the Maritime Subsidy Board investigates and determines the relative costs of constructing ships in the United States and in foreign countries, and of operating ships under United States and competitive foreign flags and takes other actions necessary to the award of subsidies.

Other government aids to shipping are provided by the Maritime Administration by insuring mortgages and/or loans made by private lending institutions to finance the construction, reconstruction, and reconditioning of ships; acquires old ships in exchange for more modern ships or for allowances of credit on the construction of new ships. It also recommends to the Department of the Navy, the payment of the cost of national defense features added to ships.

The Administration investigates and determines ocean services, routes, and lines essential for the development and maintenance of U. S. foreign commerce and the type, size, speed, and other requirements of ships to provide adequate service on these routes. There is a requirement that the operators who are awarded operating differential subsidies maintain regular service on these routes.

An area which promises hope of making the American Merchant

Marine more competitive by reducing operating costs is that of research and development. The Maritime Administration is charged with research and development in the maritime field, including cargo handling, development and utilization of new ship designs, marine transportation systems, advanced propulsion concepts, and ship management techniques. The major objectives of this program are the adoption of new and improved scientific and technical advances, thereby providing a strong U. S. maritime industry capable of competing in the world market with a minimum of government support.

It is unfortunate that more emphasis is not given this important area. For example, in 1963, the Maritime Administration with a net operating cost of current operations totalling nearly 475 million dollars was able to allocate only 6.9 millions to research and development activities. With less than 1.5 percent of current operating costs in research and development, it is not surprising that the Administration reported, "No major breakthroughs (in R&D) are predicted." [2]

An accelerated mechanized ship development program previously planned to start during 1963, by the Administration, was deferred due to budgetary limitations.

Recent R&D efforts have included successful high speed (60 knot) operation of the world's first ocean going hydrofoil ship, the 95 ton HS Denison. However, plans to operate the craft in commercial

service were deferred indefinitely in favor of an extended trials program. Research is currently being carried on in the fields of ship motions, propulsion, structures, and controls; development of a prototype ship radar data computer to aid in avoiding collisions; and studies of integrated ship propulsion plants. These and related efforts vigorously prosecuted could do much to achieve efficient operations and reduce the competitive gap with foreign shipping.

Research and development work has started to pay dividends in that during late 1963 and early 1964, five of the fifteen subsidized U. S. steamship lines ordered 27 automated ships for a total cost of about 300 million dollars. The cost saving advantage to the operators of these ships will be substantial. Due to drastic innovations in cargo handling equipment and electronic engine room operations, savings of approximately 15% of the normal at sea cost of \$4000 a day for conventional ships should be realized. Most of the saving will result from lower labor costs as the crews of the automated ships can be reduced about one third, from 50 to 34.

It is also noteworthy that despite notoriously poor labor relations in the maritime industries, agreements already have been reached by the ship operators with two of the major seafaring unions to authorize this reduced manning level.

This breakthrough to automation is largely credited to actions of the Maritime Subsidy Board of the Maritime Administration which

advised subsidized operators in August of 1963, that to qualify for continued payment of operating subsidies any new ships must have centralized engine room control, a simplified power plant, and direct bridge control of the main engine. [14]

While this U. S. move toward automation is encouraging, it does not mean that all of our problems have been solved. Foreign lines have also turned to automation to reduce costs. The Japanese, Germans, and Norwegians have also launched highly automated ships.

To carry out the national maritime policy, the Maritime Administration, with the approval of the President, constructs and reconditions ships for the government. These ships may be sold (at favorable prices to the U. S. buyer), chartered to private operators, or used for government operations. The Administration charters government owned ships to U. S. operators when such charters promote the national maritime policy. During national emergencies it may requisition for charter or operation ships owned by U. S. citizens. This provision also applies to the large fleet of ships owned by U. S. citizens and operated under the so-called "flags of convenience" of Panama, Liberia, and Honduras (PANLIBHON). The number of ships operating under these flags is approximately one-half of our U. S. manned and operated fleet of 920 active ships. Many of these ships are new, fast, and modern in design. They operate competitively and without subsidy, primarily because ship-owners are not required to pay U. S. wage scales when operating under

foreign flags. Increasing pressures, both domestic (e.g., labor unions and subsidized U. S. operators) and foreign, may make it economically impracticable for United States shipowners to continue operation under PanLibHon flags. 9 Loss of these ships to effective United States shipping control could be a serious blow in an emergency situation.

Other functions of the Maritime Administration are maintenance of a reserve fleet, maritime training, and National Shipping Authority responsibilities. Each of these will be discussed briefly below.

National Defense Reserve Fleet. Government owned ships in excess of active shipping requirements as determined jointly by the Department of Defense and the Maritime Administration are maintained in the national defense reserve fleet. At the end of 1963, there were 1,819 ships at the eight reserve fleet locations. Of the total number, 974 have been designated as priority ships for national defense but funds appropriated in 1963 permitted only 67% completion of preservation work due at a cost of 139 million dollars. [2]

Maritime Training. Training activities consist of operation of the United States Merchant Marine Academy, Kings Point, New York, and radar observer training program for seagoing personnel conducted at New York, New Orleans, and San Francisco. A grant-in-aid program is administered to the four states currently operating maritime nautical schools.¹

¹ States presently maintaining such schools are California, Maine, Massachusetts and Texas.

The Merchant Marine Academy and the four state schools annually graduate a total of nearly 400 who receive licenses as U. S. Merchant Officers and (if qualified) Ensign commissions in the U. S. Naval Reserve. The cost in 1963 for training activities was nearly five million dollars.

National Shipping Authority. The Maritime Administration is also vested with the powers of the Director, National Shipping Authority which is the counterpart of the War Shipping Administration of World War II. Short of all-out war, its purpose is to provide ships from the reserve fleet to meet government requirements which exceed private shipping capabilities. In an emergency situation, the NSA would not only provide ships from the idle fleet, but would also requisition privately owned ships as needed.

Having examined the various responsibilities and activities of our merchant marine's promotional agency, the Maritime Administration, it is now appropriate to analyze the specific federal assistance programs to determine their adequacy and appropriateness in serving the nation's ocean transportation requirements.

Chapter V

Federal Assistance Programs

One of the most important forms of aid provided to the U. S. Merchant Marine is the operating differential subsidy which was authorized by the Merchant Marine Act of 1936 (Title VI). The term simply means the government will pay the difference between the cost of operating a U. S. vessel and the cost of operating the same type of vessel in the same service under competitive foreign flags.

The subsidy may be paid only to an operator who agrees to provide service on a route which has been determined by the Maritime Administration to be essential to the foreign trade and commerce of the United States. The requirements of United States trade and defense are under constant review to determine which areas need regular American shipping service, and how many and what kinds of American ships are needed to provide that service. In 1963, the Maritime Administration reviewed the essentiality and U. S. flag service requirements of five U. S. foreign trade routes. At the present time there are a total of 34 routes declared to be essential, plus round-the-world east-bound and west-bound services and a tri-continent service which includes parts of several trade routes. These routes include groups of ports on the Atlantic, Gulf and Pacific coasts and routes numbers 32, 33, and 34 add a "fourth coastline," to the Great Lakes.

Subsidy payments are made for the difference in costs of wages,

subsistence of officers and crews, insurance, and maintenance and repair. No subsidy is paid for cargo handling or terminal costs, fuel, passenger food, foreign purchases, or administrative costs.

American wages paid to seagoing personnel are three to four times those paid to their counterparts on foreign flag ships. (See Table I) and these costs comprise nearly three-quarters of the operating subsidy payments. The high pay received by the seamen puts them in the upper scale of American labor. The average monthly wage of an able-bodied seaman on a typical United States flag C-2 ship is over \$700. This includes overtime and employer contributions to funds but does not include payroll taxes, subsistence and lodging, transportation and accident insurance. There is apparently some justification in the argument that high wage costs are driving ships away from the American flag, and although a useful pool exists for emergency manning of ships, there are today over twice as many seamen on union rolls as there are seagoing jobs available.

The amount of subsidy due an operator is carefully calculated. The cost of each subsidizable item is computed by the operator for each voyage and is checked by government accountants. Information is obtained on the cost of parallel items of expense incurred by foreign companies operating similar ships on the same trade routes. The U. S. and foreign costs are compared to obtain the difference in percent of U. S. costs. The differentials are weighted by the degree of

TABLE I

AVERAGE DAILY OPERATING COSTS OF C-2 TYPE SHIPS

VARIOUS FLAGS - ESTIMATES 1960

	<u>United States</u>	<u>Britain</u>	<u>Germany</u>
Wages	\$1,234	\$353	\$300
Subsistence	96	80	78
Stores, Supplies and Equipment	100	92	88
Repairs and Maintenance	230	138	151
Insurance	210	155	206
Miscellaneous	<u>40</u>	<u>24</u>	<u>21</u>
TOTAL EXPENSES	<u>\$1,910</u>	<u>\$842</u>	<u>\$844</u>
Fuel - Steaming	609	609	609
Fuel - in port	120	120	120

Source: American Merchant Marine Institute, Inc.

competition of each principal foreign flag on the particular route. Negative differentials are applied as an offset against positive differentials to arrive at a composite weighted differential subsidy rate for each item.

The operator who receives a subsidy must agree to accept certain conditions, restrictions, and limitations:

- a. He must provide a regular service with a stated minimum and maximum number of sailings each year.
- b. He must man his ships with United States citizens.
- c. His ships must be operated in the most economical and efficient manner.
- d. He must replace his vessels as they become obsolete with ships built in American shipyards, and for this purpose must set up special funds.
- e. He must outfit and supply his ships with materials produced in the United States and repair his ships in the U. S., except in an emergency.
- f. He must limit the payment of profits or dividends to not in excess of 10% of his "capital necessarily employed," and then only to the extent earned, and must observe other restrictions on dividend payments.
- g. He must retain earned profits in excess of 10% for a 10 year accounting period. At the end of the period, he must repay to the

government half of all the profits in excess of 10%, up to the full amount of the subsidy received.

h. Except with special permission of the government, he may not operate in the domestic service, nor operate unsubsidized vessels in competition with other subsidized lines, nor act as agent or broker for or operate foreign flag vessels competing with U. S. flag vessels in essential services, nor carry on business unrelated to shipping.

i. A subsidized operator may not include more than \$25,000 in salary for any official or employee of the company as a business expense in the computation of earnings for recapture and Reserve Fund deposit purposes. He must file financial statements and reports with the government and submit his records to audit and examination whenever required. [11]

The cost of operating differential subsidies to the government for the 13 year period ending in 1959, was about \$78 million annually. This net subsidy was approximately 24% of the \$4.2 billion direct cost of operating the ships of the subsidized operators.

Of 920 United States flag ships in active service as of June 30, 1963, a total of 616 were engaged in foreign trade and of these, 315, or slightly more than half, were subsidized. A summary of the 15 operating-differential subsidy contracts in effect June 30, 1963, covering these 315 ships is shown in Table II.

The construction-differential subsidy established by Title V,

TABLE II

SUMMARY OF OPERATING-DIFFERENTIAL SUBSIDY CONTRACTS AS OF

JUNE 30, 1963

<u>Name of Operator</u>	<u>Expiration date of agreement</u>	<u>Number of ships passenger & cargo combination</u>	<u>Cargo</u>
American Export Lines	Dec 31, 1979	5	36
American Mail Line	Dec 31, 1978		9
American President Line	Dec 31, 1976	6	19
Bloomfield Steamship Co.	Dec 31, 1963		4
Delta Steamship Lines	Dec 31, 1977	3	10
Farrel Lines	Dec 31, 1977		15
Grace Lines	Dec 31, 1977	8	17
Gulf & South American	Dec 31, 1978		5
Lykes Bros. Steamship Co.	Dec 31, 1977		48
Moore-McCormack Lines	Dec 31, 1977	2	41
The Oceanic Steamship Co.	Dec 17, 1972	2	3
Pacific Far East Line	Dec 31, 1978		9
Presidential Lines	Dec 31, 1979		5
States Steamship Co.	Dec 31, 1977		13
United States Lines Co.			
Cargo service	Dec 31, 1969		53
SS America	Dec 31, 1963	1	
SS United States	Jan 20, 1967	<u>1</u>	<u> </u>
	TOTALS	28	287

Source: United States Department of Commerce, Maritime Administration

Merchant Marine Act of 1936, is the other principal type of government aid provided the merchant marine. This subsidy may be paid to any American-flag owner who builds a ship in a U. S. shipyard to be used in the foreign trade of the United States. The law provides that the subsidy paid shall not be in excess of 50% of the domestic construction costs, exclusive of national defense features.

Eligibility for construction subsidy is based upon certain conditions being met, these include:

- a. The proposed ship will be operated in foreign commerce against flag competition.
- b. The proposed plans for the ship must meet certain standards of design with respect to safety and operating efficiencies.
- c. The applicant must possess the required financial and operating ability attendant with U. S. foreign trade operations.
- d. Congress must have appropriated sufficient funds to cover the cost to be borne by the government.
- e. The ships must be readily adaptable for use as a naval auxiliary.

An American-flag owner who wishes to build a ship with construction subsidy aid must submit detailed plans to the Maritime Administration. These plans are checked for adequacy in writing the requirements of the service intended and that they are up to government standards. The plans are also submitted to the Secretary of the Navy, who may request

inclusion of certain features considered necessary for national defense.

United States shipyards are then invited to submit bids for the construction of the ship. These bids are carefully evaluated by the government and the prospective owner to determine the most responsible bidder and most responsive bid. Formerly, West Coast shipyards were given a six percent differential in their favor on bids for ships to be built for a West Coast operator. In 1963, however, Public Law 87-877 repealed this provision and all bids, irrespective of source, are considered equally. The government may however, still award the contract to other than the low bidder when considered necessary for purposes of national defense.

The government then determines the cost of constructing the proposed ship in a foreign shipyard. This involves the selection of a foreign shipbuilding center, taking into account the personnel, facilities, and experience necessary for constructing the proposed ship and the contract requirements of time, quality, and price. The estimated cost of constructing the commercial ship (excluding any national defense features) at the foreign yard is computed, including costs of materials, equipment and components, direct labor, overhead, establishment and social charges, profit and escalation.

The difference between the construction cost of the successful U. S. bidder and the estimated foreign cost is the subsidy rate. In 1963, the maximum subsidy rate of some passenger ships was increased

to 60% and to 55% for the construction of other new ships and reconstruction of ships. The former maximum subsidy rate was 50% of the domestic cost.

Two methods of paying the construction subsidy are in effect. Under the first method, the government contracts exclusively with an pays the full contract price to the building yard and then sells the ship to the operator at the estimated foreign cost (less the cost of any national defense features). Under the other method, the operator and the government jointly contract with the builder, with the government paying the builder the sum of the subsidy and national defense features costs, with the operator paying the remainder of the construction costs.

The Merchant Marine Act of 1936, forbids the payment of operating subsidies on ships over the statutory age (20 to 25 years). Thus, a subsidized operator who wishes to continue receiving operating subsidy payments must agree to replace his ships as they become overage. This is the principal stimulus to the shipbuilding replacement program. In 1955, it was determined that 84% of the U. S. private fleet in foreign trade and almost all of the reserve fleet ships would reach the 20 year age by 1965. This threatening "block obsolescence" and the need for replacing the fleet with fast and efficient ships, prompted the Maritime Administration to give special emphasis to stimulating shipbuilding replacement programs. Between 1955 and 1960, new

contracts were executed with 13 subsidized operators for the replacement of 299 ships by 1975, at a total cost of over 4.5 billion dollars. Although a step in the right direction, this program has not been entirely effective as orders for new ships have not kept pace with deliveries. For example, the total number of merchant ships under construction in the U. S. shipyards has steadily declined since 1959, with a decrease from 64 as of July 1962, to 54 in June of 1963. [2] The United States ranked a poor fifth on a world basis in deliveries of new merchant ships for her own registry in the fiscal year ending June 30, 1963. Table III presents comparative data of ship deliveries during this period.

The powerful influence of the construction differential subsidy and the higher costs of building ships in the United States are clearly demonstrated in these statistics. U. S. shipyards produced only ships built for American registry. Higher U. S. construction costs have made our yards non-competitive for building of ships for other countries. Japan, on the other hand, built a total of 52 ships, grossing over one million deadweight tons for other countries. It is also significant that no ships were constructed in foreign yards for U. S. registry. This fact demonstrates the effect that the subsidy program has on maintaining the U. S. shipbuilding industry. The cost of construction differential subsidies payed or payable during the fiscal year ending June 30, 1963, was over 94 million dollars. [2] It is apparent that

TABLE III

DELIVERIES OF NEW MERCHANT SHIPS DURING FY ENDING JUNE 30, 1963

<u>Registry for which built</u>	<u>Ranking</u>	<u>Number</u>	<u>Deadweight Tons (1000's)</u>
United States	(6)	29	476
United Kingdom	(1)	94	1,183
Sweden	(5)	29	483
Netherlands	(7)	29	426
Norway	(2)	95	1,979
Denmark	(10)	21	210
France	(11)	15	190
Italy	(9)	14	372
Japan	(3)	98	1,669
West Germany	(8)	31	399
Liberia	(4)	27	1,005
All others		<u>185</u>	<u>2,196</u>
TOTAL		667	11,588

<u>Country in which built</u>			
United States	(7)	29	476
United Kingdom	(2)	85	1,458
Sweden	(4)	52	1,138
Netherlands	(6)	47	666
France	(5)	43	763
Japan	(1)	150	3,069
West Germany	(3)	63	1,331
All others		198	2,687

Source: Department of Commerce, Maritime Administration

without this construction aid, our domestic shipbuilding industry would be reduced to insignificance and that federally owned shipyards would be our only viable activities for ship production.

This is the argument of those who maintain that our shipyards must be kept active, even as a captive industry, so that we will not be caught without adequate construction facilities in an emergency build-up period.

Have subsidy programs been effective in their application as envisioned by the Merchant Marine Act of 1936? The answer must be an emphatic NO. The United States policies on subsidies to the merchant marine have been a failure from the standpoint of maintaining a sound and thriving industry. The provisions of the 1936 Act for replacement of current tonnage are inadequate. This inadequacy has been recognized for some time and increasing attention is being given to a complete overhauling of the 1936 Act. [7] The provisions of the Act have been the subject of general criticism. An article in a leading financial weekly stated:

The Merchant Marine Act, even as its staunchest advocates now concede, has failed its purpose. After 25 years, like most ships, it is hopelessly obsolete. Surely the time has come to replace it with something better. [12]

The subsidy system offers little incentive toward self-sufficiency on the part of the shipping industry and has cost the United States taxpayer an average of 150 million dollars per year since 1954.

The present administration of the subsidy system is an obstacle to the progress of the American Merchant Marine. Military requirements demand high speed capabilities and special defense features which are not wholly consistent with commercial interests of economy in administering construction subsidies. Many espouse the view that the subsidies presently create inconsistent aims for labor, business, and government in the maritime industry. The operator is encouraged to over-specify his construction needs, knowing that half the cost will be paid by the government. By the same token, the operator over-emphasizes economy in unsubsidized operating costs and cares little about subsidized costs.

Other forms of government aid to the merchant marine include payment for national defense features incorporated in new ships, government insurance of ship construction loans and mortgages, trade-in allowances on obsolete ships, certain tax benefits and cargo preference regulations.

The plans and specifications for ships built with government aid must be submitted to the Department of the Navy for review and approval. If any additional national defense features are included as a result of this review, their cost is borne by the government. Examples of national defense features would be additional heavy lift capacity, roll-on-roll-off capacity for quick loading of wheeled and tracked vehicles, increased evaporator capacities for troop

consumption, and increased speed requirements. The cost of these features is relatively small in comparison to the added value obtained in event of war or emergency. In 1963, the cost of national defense features was one and a quarter million dollars.

Under the early provisions of the Merchant Marine Act of 1936, as amended, the government was active in directly insuring construction loans and ship mortgages. However, in 1954 and 1956, the law was amended to encourage the use of private funds for financing ship construction. At the present time, the government insures private loans up to 75% of the construction value. For completed ships, the government may insure a mortgage up to $87\frac{1}{2}\%$ of the actual construction cost. Both the borrower and the lender must be U. S. citizens. Here is another illustration of the government's efforts to promote the American economy.

Provision is made in the shipping laws for an operator to trade in to the government an obsolete vessel in exchange for an allowance of credit on the purchase price of a new ship. The ship traded in is placed in the reserve fleet and since it usually is of a better type than the war-built Liberty ships which still make up most of this reserve fleet, both the quality of the reserve fleet and the active fleet are improved.

Operating subsidies require the operators to maintain a Capital Reserve Fund for new ships in which is deposited money representing

the depreciation of subsidized fleets. A Special Reserve Fund in which profits in excess of 10% are deposited, is also required for meeting possible future losses or financing new construction. Neither of these mandatory funds are subject to current income taxes and are tax exempt if used for certain purposes, such as new construction, payment of subsidy recapture to the government, and meeting operating losses on subsidized operations. These funds have proved of greatest benefit in covering ship replacement costs and have a similarity to the depreciation of facilities and capital improvements of industry in general.

At least half of U. S. government cargoes must be transported in U. S. flag ships.¹ In addition, all U. S. exports purchased with government loans must be carried in U. S. flag vessels unless a waiver is obtained under special circumstances. Commercial transactions are not affected under this ruling and traffic subject to cargo preference comprises a small portion of total U. S. foreign commerce--about 10% of our exports and less than 2% of our imports. Despite these small percentages, the cargo preference laws have been important to U. S. flag ships. For example, during the period 1955-57, government financed programs provided 20% of all the cargoes carried by U. S. flag lines, and 61% of all outbound cargo carried

¹Cargo Preference Act, Public Law 664, 83rd Congress.

by U. S. flag tramps. Without cargo preference, U. S. tramp ships would be put out of business and American lines would lose a substantial share of their business. As government foreign-aid programs decrease with the increasing prosperity of aid recipients, the total cargoes decrease. The total share of U. S. commerce carried by foreign-flag lines has steadily increased since the end of World War II, from about 34% in 1946 to about 88% in 1958.

How effective then have these various federal aid programs been in maintaining and stimulating the growth of our merchant marine? Questions which need to be answered include--Is our merchant marine basically capable of serving the economic interest of the United States and capable of function as a naval auxiliary in times of emergency as envisioned in the Merchant Marine Act of 1936? The answer to these questions must be in the negative. From a standpoint of size, we lead the world in numbers and tons of shipping ONLY when the inactive fleet of 1,745 over-aged and uneconomical ships are considered. Our active fleet consists of only 920 ships with 616 engaged in foreign trade, which places us a poor fifth behind the United Kingdom, Norway, Japan, and the USSR, in that order.

Table IV presents a comparison of the employment of U. S. flag merchant ships over 1,000 gross tons as of June 30, 1963, and June 30, 1960. In this three year period, the number of ships in foreign trade increased by 55 which is encouraging but hardly adequate to meet the

TABLE IV

EMPLOYMENT OF UNITED STATES FLAG MERCHANT SHIPS
(OCEAN-GOING SHIPS OF AT LEAST 1,000 GROSS TONS)

	<u>June 30, 1963</u>	<u>June 30, 1960</u>	<u>Change</u>
Total Ships	2,665	2,934	(269)
Active Ships	920	951	(31)
U. S. Foreign Trade	616	571	(55)
Maritime Administration	15	33	(18)
Privately Owned	601	536	65
U. S. Domestic Trade	299	372	(73)
Maritime Administration	3	3	
Privately Owned	296	369	(73)
Inactive Ships	1,745	1,983	(238)
Temporarily Inactive	89	99	(10)
Maritime Administration	8	2	(6)
Privately Owned	81	97	(16)
Maritime Reserve Fleet	1,656	1,884	(228)

Source: Annual Report of the Maritime Administration, 1963.

challenge of our world shipping competitors. Table V presents data on selected merchant fleets of the world as of June 30, 1963, which highlights the poor relative position of the United States.

From another aspect, despite significant increases in United States commercial foreign trade since 1950, there has been a drop in percentage of these cargoes carried by American flag ships (See Table VI). Again, it is clear that our merchant marine is not carrying a significant portion of our world trade, and government aid through aid subsidies and other forms, have not been effective in alleviating this imbalance.

What of our major adversary, the USSR, and her activities with respect to maintaining and supporting the growth of a merchant fleet for economic and political advantage? This challenge is the subject of the following chapter.

TABLE V

SELECTED MERCHANT FLEETS OF THE WORLD
(OCEAN-GOING SHIPS OF 1,000 GROSS TONS AND OVER)
JUNE 30, 1963

<u>Country</u>	<u>Number of Ships</u>
United Kingdom	2,259
Norway	1,415
Japan	1,251
USSR	1,029
United States	946 (Excludes 1,745 Reserve Fleet Ships)
West Germany	870
Liberia	849
Greece	812
Italy	626
France	623
Netherlands	542
Sweden	527
Panama	494
World Total	17,917

Source: Annual Report of the Maritime Administration, 1963.

TABLE VI

WATER-BORNE IMPORTS AND EXPORTS
 PERCENT CARRIED BY U. S. FLAG SHIPS
 (In millions of short tons)

<u>Year</u>	<u>Total Trade</u>	<u>% U.S.</u>	<u>Total Imports</u>	<u>% U.S.</u>	<u>Total Exports</u>	<u>% U.S.</u>
1935	81	31.7	38	41.6	43	22.9
1940	106	28.7	45	38.8	61	21.2
1945	101	68.4	39	79.7	62	61.2
1950	159	39.3	97	43.7	63	32.5
1952	210	34.3	107	38.8	103	29.5
1953	200	29.0	119	32.3	81	24.1
1954	199	27.5	121	30.1	78	23.5
1955	254	23.5	141	26.5	113	19.6
1956	306	21.9	160	24.8	145	19.9
1957	338	18.8	172	20.1	166	17.5
1958	290	13.5	176	11.7	115	16.3
1959	308	12.0	200	9.6	108	16.4
1960	323	12.3	199	9.9	124	16.3
1961	316	10.6	188	8.1	128	14.4
1962	345	11.0	211	8.7	134	14.6

Source: Statistical Abstract of the United States, 1963.

Chapter VI

The Soviet Merchant Marine Threat

The Soviet Union already possesses a strong navy and is recognized as being second only to the United States in naval strength. It currently is engaged in an enormous merchant ship construction program which is planned to double the size of its 1960 fleet by 1965, triple it by 1970, and achieve a five to six times increase by 1980. It is all too evident, then, that the Soviet Union recognizes the importance of the sea, and sea power in all its many facets, figures prominently in its political plans to dominate the world.

Comparitive statistical data shows that the Russian merchant fleet has been undergoing sustained growth since 1950, while the U. S. merchant fleet has contracted steadily since 1946. As to the future, the USSR shows evidence of assigning high priority to its ambitious fleet expansion program, in contrast to relative neglect of the merchant fleet in this country.

In 1939, Russia's 1.5 million tons of merchant shipping not only was insignificant in world standing, but also consisted predominately of ships of ancient vintage. In contrast, United States with 11.6 million tons of merchant shipping ranked second to only Great Britain.

Except for a brief increase in 1955, the U. S. merchant fleet has undergone a steady reduction since 1948. This downward slide is expected to continue unchecked unless strong remedial steps are taken to

promote the American Merchant Marine. A partial solution has been for the government to provide financial assistance to American flag competitors. At present, only 15 American steamship lines receive operating differential subsidies which permit them to operate on an equal cost footing with their foreign competitors.

The build-up of the Russian fleet which commenced in 1954, showed a net annual increase of over 440,000 dead weight tons during a six year period. Contrastingly, the American merchant fleet suffered a decrease in construction averaging over 300,000 tons per year during the same period. See Table VII for a comparison of US/USSR tonnage from 1939 projected through 1980.

The upsurge in Russian tonnage in 1962, is due to the fact that Russia is now benefiting from its 7 year construction plan (1959-1965). This plan adopted in 1958, superseded a more modest 5 year plan which was programmed for the years 1955-1960. The prescribed goal of the 7 year plan calls for doubling of the 1960 fleet by 1965. The 22nd Communist Party Congress, which met in Moscow in late 1961, has already developed new target goals which will cover the periods 1965-70, and 1970-1980. In 1963, Russia had over 3 million deadweight tons building or on order, all to be delivered by 1965, and appeared to be fulfilling the requirements of their 7 year plan of increasing at the annual rate of 1 million dead weight tons. This Russian ship construction program far exceeds United States activities as shown in

TABLE VII

COMPARISON OF MERCHANT FLEETS OF THE USSR AND THE UNITED STATES

PAST, PRESENT, FUTURE

<u>Year End</u>	<u>USSR¹</u>		<u>U.S.²</u>	
	<u>No. of Ships</u>	<u>=DWT(1000's)</u>	<u>No. of Active Ships</u>	<u>=DWT(1000's)</u>
1939 (Sept)	354	1,598	1,379	11,682
1946 (Jan)	488	1,852	4,861	50,389
1950	432	1,797	1,099	13,340
1955	684	2,426	1,072	13,602
1960	873	4,939	954	13,345
1962	1,002	5,992	843	12,810
1965	1,746	9,878	799	11,795
1970	2,619	14,817	644	10,245
1975	3,492	20,990	567	8,695
1980	4,365	27,165	489	7,145

¹Russian fleet expansion in period 1960-1980 projected in accordance with tonnage goals set by 22nd Communist Party Congress. Trend toward larger size ships undoubtedly will enable tonnage goals to be met with fewer ships than numbers listed.

²U. S. fleet contraction projected at same rate as 1954-1960.

Source: Maritime Administration; Marine Engineering/Log.

Table VIII. Russia had five times as many ships building as the U. S. In terms of tonnage, Russia exceeded that of the U. S. by four times.

It is obvious that Russia wants to increase the size of her merchant fleet as rapidly as possible. Its own yards are believed to be heavily engaged in naval construction, so to achieve the ship-building goals of the 7 year plan, Russia is relying heavily on her satellite shipyards and has also contracted for large amounts of tonnage from free world sources. In one single contract placed in Japan in 1963, she ordered \$100 million in ships.

Despite the significant increase in Soviet merchant marine strength, there is little evidence of concern on the part of United States officials and the U. S. public in diminishing our gap with Russia in this important area. It must be recognized that a strong modern American Merchant Marine is essential to our defensive posture in times of national emergency and to ensure our access to free world markets and vital raw materials in time of peace.

In times of national emergency, as shown by the two World Wars and the Korean conflict, we must rely most heavily on our own shipping. Being the dominant leader in world trade--accounting in 1961 for 18% of the world's total export movement, it is only sensible that we protect our trading position by maintaining a merchant marine of sufficient size and capabilities to maintain that position.

But as pointed out, public and governmental indifference and

TABLE VIII

MERCHANT VESSELS BUILDING OR ON ORDER AS OF

MAY 1, 1963

<u>Type Ship</u>	<u>For the USSR</u>		<u>For the U. S.</u>	
	<u>Number</u>	<u>Leadweight Tons</u>	<u>Number</u>	<u>Deadweight Tons</u>
Passenger Cargo	12	100,000	3	23,370
Tankers	76	1,963,400	7	242,750
Cargo	110	728,100	36	430,276
Other types	<u>38</u>	<u>240,600</u>	<u>1</u>	<u>1,264</u>
TOTALS	236	3,032,100	47	697,660

Source: Maritime Administration; Marine Engineering/Log.

inaction to the important wartime and peacetime roles of the merchant marine has resulted in its steady diminution since the mass ship-building of World War II. Compounding the problem is the fact that the American Merchant Marine being predominantly a World War II built fleet, is rapidly approaching the end of its economic life in block obsolescence.

Recognition of the deterioration of the U. S. merchant fleet and the rapid build-up of the Russian fleet has been given only by U. S. Naval officials and a few congressional supporters.

The Assistant Secretary of the Navy, the Honorable Kenneth E. Belieu, stated in 1962:

The Communist expansionists have come to a turning point. There is no easy way to expand their influence much further without use of the seas...At last, our opponent must come out of his land mass and face us in our own element. The struggle will take place at sea. The peaceful looking Soviet block merchant ships as an instrument of decisive military, political, or economic importance now looms large and lethal. Our merchant marine is not prepared to meet the challenge, and worse, it gives little signs of improving. [13].

In a detailed study to determine whether this country's sea transportation requirements could be filled in time of war, Vice Admiral John Sylvester, USN, Deputy Chief of Naval Operations, made the following conclusions and recommendations:

The strategic objectives of the United States in wartime, dictate that the United States have under its control sufficient active merchant-type shipping to promptly meet its sea lift requirements.

Previous evaluations of shipping requirements and availabilities have shown that the United States does not have sufficient active

merchant shipping to meet national security needs for general war, even when we combine the total of U. S. flag and U. S. controlled foreign shipping.

The vast proportion of U. S. flag merchant tonnage was constructed under the World War II building program. Approximately 94% of our dry cargo and 57% of our tanker tonnage is in the 15 year and older age bracket--they have long been outmoded from the standpoint of modern design, are nearly to the end of their useful life, and are long overdue for replacement. [13]

With respect to this nation relying on the shipping of our allies in time of emergency--such as the Defense Shipping Authority of NATO, Admiral Sylvester stated:

It is probable that the total combined shipping requirements of the NATO nations will exceed the total shipping capabilities available.

Of utmost significance is the fact that the interests of the United States are global and emergencies may well arise wherein our interests would not be identical with those of our European allies. [13]

With reference to the last statement quoted above, we have only to look at the Lebanon crisis to assure ourselves that the flag vessels of some of our allies would not be welcome in all instances, or review of the Suez emergency for proof that we cannot depend on foreign shipping--even that of our allies.

In summary of the Soviet threat, the following conclusions are offered:

1. The consequences of the Soviet Union's rapid maritime expansion program will have serious repercussions on the United States and the rest of the free world. Despite the ultimately adverse

political, military, and economic consequences, shipyards of our allies are actively soliciting Soviet shipbuilding orders for short-sighted proprietary reasons.

2. With Russia making such tremendous progress in maritime strength, there is no logic justifying the apparent unconcern of our government toward the steadily diminishing stature and capabilities of the U. S. merchant fleet.

3. The national security of the United States and the collective security of the rest of the free world lies at stake in the maritime threat of the Soviet Union.

Chapter VII

Summary

The problems of our merchant marine are not new and although the interests of this nation are rooted in foreign trade and other maritime activities, there has been a decided indifference reflected by the public at large and the government in maintaining an adequate maritime position. The economic advantages which this nation enjoyed in its early days passed from the maritime scene long ago and with that passing began the decline of the American Merchant Marine. The main impetus to strengthening our maritime position has been the result of two world wars and was primarily a security rather than an economic consideration.

Early government assistance to the merchant marine in the form of cabotage restrictions and ocean mail contracts were ineffective. Despite the great economic contributions which the maritime industries had made to the growth of the nation, it became apparent that the shipping industry was no longer economically self-sufficient. In 1935, this condition was recognized as a fact of life and undisguised subsidies for ship operation and construction were enacted by the Merchant Marine Act of 1936. This Act established and clearly stated our policies. Certain adjustments have been made by legislation to dispose of the huge war-built fleet and to provide additional long-range assistance for the modernization of the fleet but, generally, the 1936 Act remains as the basic policy of the government.

The fact remains, however, that U. S. policy has failed in the accomplishment of its stated goals. Except in wartime, the American Merchant Marine has not come close in carrying 50% of the foreign waterborne commerce of the nation which is generally accepted as the "substantial portion" called for by the policy statement of the 1936 Act.

The 1936 Act has not only failed in application with respect to the liner trade in its operating differential subsidies but also by exclusion of tramp and bulk carriers, has helped foster the controversial "flag of convenience" dilemma. The operating subsidy being limited by law to liner operations on essential trade waters, has forced many U. S. importers of bulk commodities to own their own foreign flag ships due to lower operating costs. Likewise, the higher labor, subsistence and repair costs of the unsubsidized tramp operators has all but forced them from the high seas. The cost of a U. S. crew alone exceeds the charter hire of a fully manned and provisioned foreign flag tramp in today's market.

Obviously, changing the law to include the coverage of bulk and tramp operators under subsidies is not the logical solution to their uncompetitive position any more than increasing current subsidies would make the liner fleets more competitive.

The burden to the government and the taxpayer for the cost of operating subsidies is over two hundred million dollars a year. Construction subsidies total slightly under a hundred million yearly.

The subsidies have, no doubt, kept our fleet in existence but have failed to encourage self-sufficiency in the maritime industry. The need for subsidy could be markedly reduced through a program of research and development leading to a U. S. maritime industry which obtains maximum productivity through efficient use of its capital and labor.

Other forms of government assistance such as cargo preference and other forms of discriminatory practices have not materially affected the percentage of trade carried in American ships, have not added to the merchant marine's self-sufficiency and have not enhanced our shipping relations with other maritime nations.

If subsidies and other forms of government aid have not been successful, what are the prospects for research and development?

A special committee formed to study the problem stated:

The United States Merchant Marine would directly benefit from a greatly enlarged program of research and development which both government and industry should support. [9]

The logical objectives of such a program should satisfy two basic considerations of importance:

1. developing a self-supporting U. S. merchant marine which can compete successfully in the world market.
2. developing a U. S. merchant marine which will be of the greatest possible use as a "fourth arm of defense."

In view of the relatively high labor costs in the United States, the most promising prospect of becoming competitive lies in the new

technologies of increased mechanization or automation to reduce to a minimum the manual labor involved in ship operation and cargo handling. Requiring subsidized operators to replace their ships with those incorporating the fruits of these research efforts is a step forward in closing the competitive gap. Recognition by the seafaring unions of the necessity for crew reduction on automated ships is an encouraging development in the management ~~labor~~ relations area.

The successful introduction of technological improvements in lowering operating costs will reduce subsidy payments in time, but until our fleet can be made competitive in international trade, they should be continued. It must be remembered that no single technological advance, in the face of world competition, can be expected to give us an advantage for all time. Continuing research and development will be necessary to meet the opponents' challenge.

As has been pointed out, some of our foreign competitors already have turned to automation and mechanization. Since they presently enjoy the advantage of lower operating costs, their need to automate is not as urgent as our own. However, in view of continuing world inflation, it is only reasonable to assume they will not neglect advanced technology as a means to operating efficiencies.

The threat of the growing Soviet maritime strength to the United States economic and defense posture, points out clearly the inadequacy of both our present and programmed merchant marine. Should a major conflict

ensue, our country's survival could again depend on the availability of our ships. In a push-button war these would probably be our least damaged resource and would be invaluable in evacuation and relocation efforts.

In conclusion, the United States must control sufficient merchant shipping to strengthen our own economy and that of the free world and also meet the minimum needs of political-economic conflict. Such a fleet is required:

1. As a military resource--a fourth arm of defense, in the event of armed conflict.
2. As a means of exerting economic pressure against the Soviet threat.
3. To insure access to essential raw materials.
4. As a means of protection against exorbitant shipping rates.
5. To enhance the United States' position as the leader in world trade.
6. To keep open, vital sea lines of communication for promoting the interchange of both cargoes and mutual understanding between countries.

Policies and programs that should be pursued to achieve a viable ocean transportation system are:

1. A research and development program should be vigorously prosecuted by the government, coordinated by the Maritime Administration

with representation by management and labor, to conduct a study of scientific, economic and engineering areas to create a U. S. merchant fleet which can be self supporting without subsidy.

2. Until technological developments and other innovations produce a competitive U. S. fleet, the operating subsidies should be continued.

3. The advantages of technological changes such as automation and mechanization must be made apparent to both shipping management and labor.

4. The Maritime Administration reserve fleet operation should be re-examined from a cost effectiveness aspect.

5. The "flags of convenience" ships are a vital asset for emergency operations and their owners must not be forced by labor or foreign interests to discontinue their use until U. S. bottoms can be made competitive.

6. Special attention must be given to labor-management relations to increase the reliability and stature of our maritime industries.

7. The shipping laws in general, and the Merchant Marine Act of 1936 in particular, must be reviewed and updated to promote the adoption of efficiencies and technological advancements as prerequisites to government aid.

With public interest, government, management and labor cooperation, our ocean transportation system can be made an economical asset and further United States interests throughout the world.

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